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ABSTRACT

A study was conducted to evaluate alternative methods of delivering professional development programs to local government personnel in Alberta. It consisted of the development of the analysis model, the identification and evaluation of selected alternative delivery systems, and the formulation of recommendations based on the study. Three major criteria were selected for evaluating the delivery alternatives: cost, technical feasibility, and impact on learners. Ten options were evaluated: traditional correspondence; correspondence with access to a tutor; correspondence with seminars; supplementary audio/video; audio teleconferencing; audio teleconferencing supplemented by seminars; teleconferencing with one-way video and two-way audio; computer-assisted learning; extended seminars; and regular, on-campus, classroom instruction. Study results suggested the adoption of relatively "low tech" solutions. Recommendations emphasized the redefinition of the roles of, and relationships among, instructional and community resource persons and the adjustment of the course delivery schedule. Conclusions suggested that the appropriate delivery alternative depends on several decision criteria, the weights of which vary depending on the limitation of the technologies being considered, the size and location of the clientele, and the cost involved. (YLB)

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# EVALUATION STUDY OF AN EXPANDED DISTANCE EDUCATION SYSTEM

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## ABSTRACT

A study was conducted to evaluate alternative methods of delivering professional development programs to local government personnel in Alberta. It consisted of 1) the development of the analysis model: 2) the identification and evaluation of selected alternative delivery systems, including correspondence, teleconference and residential methods; and 3) the formulation of recommendations based on the study. Although there have been favorable attitudes toward the adoption of relatively "high tech" distance education methods, the results of the study suggest the adoption of relatively "low tech" solutions. The recommendations emphasize the redefinition of the roles of, and relationships among, instructional and community resource persons, and the adjustment of the course delivery schedule. This counter-intuitive conclusion suggests that the appropriate delivery alternative depends on several decision criteria the weights of which vary depending on the limitation of the technologies being considered, the size and location of the clientele, and the cost involved.

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

This paper discusses the outcome of an evaluation study conducted to determine the relative merits of selected methods of delivering local government courses, offered in the province of Alberta under the aegis of the Local Government Studies Program, Faculty of Extension, University of Alberta. The study's findings and recommendations are examined within a conceptual framework for organizational growth and performance proposed by Lawrence and Lorsch (1976).

Until recently, the Faculty of Extension administered the Local Government and the Municipal Assessment Certificate Programs by offering all the courses through a "correspondence-seminar" method in which students from all over the province have been able to combine the self-study correspondence approach with limited face-to-face seminars conducted by the course instructors at designated centres in Alberta.

In 1982, Alberta Advanced Education awarded the Faculty of Extension a grant to expand the Local Government Studies Program. The funding enabled the Faculty of Extension to upgrade existing correspondence materials, develop new courses, and involve other Alberta post-secondary institutions interested in establishing a capacity to delivery some of the courses required in the certificate programs on their campuses. These objectives were formulated on the basis of an extensive survey of the training requirements of local government administrators conducted by LeSage (1978) and Einsiedel (1983a, 1983b).

One of the major objectives of the expanded Local Government Studies Program was to enhance the learning experiences of the program's part-time students by increasing the opportunities for face-to-face interaction between students and their instructors as well as among the students themselves. There were two changes implemented immediately in order to achieve this objective: liberalizing the transfer of credit policies and, second, adopting other methods of interactive delivery. Courses offered in the Extension's Local Government Studies certificate programs were compared with similar courses in other institutions, and students were encouraged to take local courses instead of relying exclusively on the correspondence-seminar courses from the Faculty of Extension. In addition, the Faculty of Continuing Education at The University of Calgary was contracted to

teleconference some of the courses on an experimental basis, using their system that has proved effective for social services and other groups with similar constraints to those of the Local Government Studies rural-based students.

After the initial period of two-and-a-half years, during which there was active growth of the Local Government Studies Program, the Faculty of Extension commissioned the evaluation study to determine what specific changes might be made, if any, in the correspondence-seminar and teleconference methods. The research was also expected to recommend other alternative means of delivery that have been used successfully in comparable programs. The report (Taylor, 1984), containing the researcher's findings and recommendations, was submitted to the Faculty of Extension, the Local Government Studies Advisory Committee, and academic and administrative personnel involved in the program.

## ORGANIZATIONAL GROWTH: A CONCEPTUAL FRAMEWORK

Growth of organizations is not a chance occurrence but rather a result of conscious managerial decisions (Robbins, 1983). Growth often provides economic benefits to the organization, improved services to the clients, and political benefits to the executive decision makers. For educational programs, such as the Local Government Studies Program, expansion is expected to make better-quality professional continuing education more accessible to local government administrators in Alberta. The system not only has to grow but also has to demonstrate improved system performance.

Lawrence and Lorsch (1967) provide a conceptual framework that addresses organizational performance as it is affected by several organizational and environmental factors. Their model embodies the hypothesis that successful organizations are better able to match their external environments with the system's internal, structural features.

The external environment can vary from one that is predictable, homogeneous, and stable to one that is uncertain, diverse, and unstable. At the time of the evaluation, the environment of the Local Government Studies Program was considered to have a high degree of uncertainty and complexity. Students in the program were widely dispersed throughout the province, and

were employed by municipal authorities that vary in size and distance from post-secondary institutions. As the economy of the province deteriorated, municipal authorities implemented cutback measures and the jobs of local government administrators began to change. Their needs for professional development were also changing. The administrators' professional associations were intensifying their commitment to greater professionalism and were moving towards the amalgamation of their professional development and education strategies. These changes directly affected the policies and operation of the Local Government Studies Program, which provided the major source of continuing professional education in local government. At the same time, the Faculty of Extension itself was in the process of replacing its outgoing Dean. There was also ambiguity in terms of the feasible and desirable working relationship between the Faculty of Extension and other post-secondary institutions as the former assumes the lead role in province wide delivery of local government courses. Amidst all of these variables, choices had to be made about the adoption of new methods of course delivery, a problem that is complicated by the rapidly growing variety and sophistication of distance technologies.

According to the conceptual model, the internal organization can also vary in terms of two separate dimensions: differentiation and integration. Differentiation refers to the diversity of the organization's internal structure. Integration refers to the extent to which administrative-integrative mechanisms are employed to coordinate the activities of the subsystems. In their research, Lawrence and Lorsch (1967) found that the high-performing organizations internal structure matched their particular environment. Specifically, in a more diverse and complex environment, the highly differentiated organization was found to respond more effectively to the environment's uncertainties. In addition, the most successful organizations also exhibited a higher degree of integration than their low-performing counterparts.

Apart from the theoretical implications of the evaluation study, the administrators of the Local Government Studies Program also expected the research to yield information that could guide their policy decisions. In particular, the choice of the delivery strategy was seen as a significant policy decision that has numerous administrative, financial, and

political ramifications.

PHASES OF THE EVALUATION STUDY

The project consisted of five phases:

1. Development of the Analysis Model

The main purpose of the work in this phase was to establish a set of evaluative criteria that reflected the unique characteristics of the Local Government Program and its students. The criteria chosen included cost (to students, their employers, and the educational institutions), technical feasibility, comprehension, travel demands, and scheduling. The Local Government Studies Advisory Committee, which also served as the evaluation project steering committee, assisted in the final selection of the evaluation criteria.

2. Identification of Alternative Delivery Systems

In addition to the correspondence-seminar and teleconferencing methods, several other alternative methods of delivery were selected. The selection was based on two factors: first, the availability of documented analysis of other methods of course delivery; and second, the degree to which those methods are potentially useful in the context of the training needs of the client groups, the resources available to the program, and the constraints imposed on both students and participating educational institutions.

3. Evaluating Alternatives

During this phase, data from two previous surveys (LeSage, 1976; Einsiedel, 1983a, 1983b), new data obtained by the researchers from a more recent survey, and data from the Local Government Studies student files were analyzed. The outcome was a ranking of each alternative delivery system on each of the evaluative criteria.

4. Reporting the Findings

The study results were reported to the steering committee. The implications for change were discussed by the committee and proceedings from the meeting were incorporated into the final report.

5. Publication of Final Report

The final report (Taylor, 1984) was prepared and circulated among some members of the Faculty of Extension, members of the Steering Committee, and the academic and administrative personnel in other post-secondary

institutions, directly or indirectly involved with the Local Government Studies Program.

The following sections summarize the background research and the evaluation criteria developed by the researchers.

## TECHNOLOGY AND DISTANCE EDUCATION [2]

Correspondence study has had a long history in Canada that goes back to 1919, when children of a lighthouse keeper living on the west coast of British Columbia benefited from the first, public, correspondence-education program. Alberta offered correspondence courses to elementary school children in 1923.

Initially, correspondence study consisted of written materials, textbooks, and assignments that had to be completed according to the stated requirements of the particular course. The assignments were mailed in by the student and marked by a tutor, who then returned the marked assignments to the student. Communication between the student and the tutor was limited and seldom satisfactory, since it was dependent upon the efficiency of mail service, the workload of the tutor, and the conscientiousness of the student in meeting deadlines. In spite of the obvious difficulties, correspondence offered a formal means of study to a sector of society that otherwise would not have had access to education. Over the years, various aids have emerged to supplement the basic written correspondence materials.

Among the innovations was the tutorial session in which a student may spend several sessions alone with the course tutor or with a small group of other students. Travel was required for either the student or the tutor or both. The telephone also became an important communication tool between the learner and the tutor.

The seminar was another aid to the learner. Certain aspects of the course were dealt with in group sessions, held in central locations on a one-or two-day basis, often on weekends. This method continues to be used as the "core technology" of the Local Government Studies Program and appears to be preferred by a majority of its students.

More recently, teleconferencing was adopted in the Local Government Studies Program on an experimental basis. Teleconferencing allowed increased

contact between more students and the course instructor, as they were linked by a telephone conference operator. The instructor was able to have audio-interaction with all the students, enabling the group to carry out a discussion and still refer to print materials supplied to students.

Other technologies explored for possible adoption included the use of radio and television, audio cassettes, videotapes and videodiscs, videotext and teletext, and computer-assisted instruction. Although none of these were in use in the delivery of Local Government Studies courses at the time of the study, the researchers had access to data from other studies that examined the efficiency of these technologies in comparable programs. Findings from these studies were generalized to the present study. For example, several institutions in Alberta have been offering educational programs using various distance education methods, among them are Athabasca University, ACCESS, The University of Calgary, Northern Alberta Institute of Technology, and Southern Alberta Institute of Technology, all of which have had considerable experience in the use of "high tech" distance education methods.

Although the evaluation study did not claim to have conducted an exhaustive survey of all distance education technologies, several general observations were offered. First, it was generally the case that programs of distance education currently in place were dependent on the more basic technological models. Written correspondence programs supplemented by seminars or telephone communication (either individual tutoring or teleconferencing) were found to be the most common methods. Although there was some use of television and videotext (Telidon), there has been little or no use of computer-assisted instruction, satellite transmission, videotape, or videodisc, except in a local mode at the post-secondary institutions.

Second, while the use of teleconferencing appeared to hold considerable promise as a delivery method, it suffered from two major problems: the cost of long distance telephone charges and the limited facilities for organizing local teleconference centres in rural communities.

Third, there were high costs involved in coordinating the delivery activities that involve numerous institutions and technicians, not to mention instructors and students. This was an especially significant factor because funds were also required for the development of new, or

upgrading current, course materials, as well as the coordination of a province wide program.

EVALUATION CRITERIA

Three major evaluative criteria were selected:

1. Cost

Cost was an obvious factor in recommending any delivery method. If the anticipated costs of an alternative exceeded the ability of the system to pay, then, regardless of how well the alternative met other criteria it had to be rejected. On the other hand, if two systems appeared to have equal merit by the other suggested criteria, then the relative cost was the determining factor.

Cost information was obtained from a variety of sources. A computerized cost model was developed that allowed the researchers to calculate the cost of different methods of delivery, when the value of specific cost variables was raised or lowered. For example, it was possible, using the model, to determine the cost of an alternative if the rate of payment for instructors changed or if the cost of telecommunications was reduced, while holding all other costs constant.

2. Technical Feasibility

This criterion refers to the extent to which the delivery alternative that was being evaluated had proven itself to be technically feasible, based on its prior record of performance. Although some alternatives have been used successfully in delivering distance education, others were considered to be in an experimental stage and tended to have higher developmental costs associated with their current applications.

3. Impact on Learners

There are various ways in which students may be affected by the type of delivery system used to present courses that are of interest to them. The following were indicators selected under this criterion:

a. Attrition - Will the rate of dropout from distance education courses be affected by the method of delivery?

b. Comprehension - Is the method the most effective choice for the presentation of the particular course material, given the needs of the learners?

c. Travel - To what extent are students required to travel to centres in order to avail themselves of the learning experience available using a delivery option?

d. Scheduling - At what time of day and season of the year will courses be presented, and how many hours are required for completion?

ALTERNATIVE DELIVERY SYSTEMS

The following 10 options were evaluated by the researchers using the model developed for this study. Table 1 contains a summary of the evaluation.

1: Traditional Correspondence.

Print materials only, regular assignments submitted to a marker for grading, final examination (Note: no seminars).

2: Correspondence with Access to a Tutor.

This is a frequently used model (e.g. Athabasca University) in which the student can phone a tutor who is available for one-on-one consultation or coaching.

3: Correspondence with Seminars.

Essentially the system currently in place.

4: Supplementary Audio/Video.

Involves the use of audio or video tape to augment the correspondence programs in Alternatives 1, 2, or 3.

5: Audio Teleconferencing.

Students are linked with each other and to the instructor via telephone communication using special equipment (i.e. a bridge, speakers and microphones).

6: Audio Teleconferencing Supplemented By Seminars.

This is the arrangement tried on an experimental basis with The University of Calgary.

7: Teleconferencing with One-way Video and Two-way Audio.

Often called the "candid classroom". The instructor presents to a group of students and the presentation is transmitted live to students in remote locations. These remote students can interact with the instructor by audio signal only.

8: Computer Assisted Learning.

Refers to self-contained, self-paced instructional programs using either micro-computers or mainframes. Courseware could be developed specifically for local government courses or could be commercially available

COMPARATIVE EVALUATION
OF ALTERNATIVES

| EVALUATION CRITERIA | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| COSTS | | | | | | | | | | |
| Student | L | L | M | M | L | M | L | L | H | L |
| Instructor | L | M | M | L-M | M | M-H | M-H | L | M-H | M |
| Development | M | M | M | H | L-M | L-M | M | H+ | L | L |
| Delivery/Admn | L | M | M-H | H | M-H | M | H | H | L | L |
| Total Cost | L | M | M | M-H | M-H | | M-H | H | L | L |
| TECHNICAL DIFFICULTY | L | L | L | M | M-H | M-H | H | H+ | L | L |
| STUDENT ATTRITION | H | M-H | M | M | L-M | L | L | L | L | L |
| LEARNING (Difficulty of) | M | M | L-M | L-M | L-M | L | L | L | L | L |
| TRAVEL | | | | | | | | | | |
| Student | L | L | M-H | L-H | M | H | L | L | H | H |
| Instructor | L | L | M-H | L-H | L | M-H | L | L | L-H | L |
| SCHEDULING (Difficulty of) | L | L-M | H | H | H | H | H | L | L | H |

NOTE: In all cases L (Low) indicates a positive assessment and H (High) indicates a negative assessment

TABLE 1

for the more generic course.

9: Extended Seminars.

Seminars of 5 to 6 days could be held in central locations. Students would concentrate on only one subject and would write an examination at the end of the seminar. The examination would be the same as for the correspondence course and would lead to certificate credit.

10: Regular, On-campus, Classroom Instruction.

Refers to regular courses offered by colleges and universities. These courses would have been accepted for transfer credit to the certificate program.

MAJOR FINDINGS

The principal means of delivery has been the correspondence-seminar, which has several distinct features built into it. Some of the major features are as follows.

- Study materials are exclusively print, as opposed to other media, such as audio or video tapes.
- All courses have seminars (usually two one-day seminars) as either optional or compulsory components. These seminars are held in Edmonton and/or Calgary.
- The courses are scheduled on a rotating basis so that each course is offered at least once a year.
- The courses are scheduled with fixed beginning and ending dates and with a maximum enrollment determined by the capacity of the instructor to mark assignments, conduct seminars, and grade final examinations.
- Students must complete a minimum number of assignments in order to be eligible to write the final examination and the final grade is based on a combination of course work and the final examination.

From the viewpoint of the student, the correspondence-seminar method is highly structured, restricting the student to taking only the courses scheduled in a particular term. He or she must register before a certain deadline, may be denied registration if the course is full, must attend sem-

inars held away from his or her home, and must complete a prescribed number of written assignments and one examination.

As an alternative, a student may also take approved courses from other post-secondary institutions and transfer the credits to the Faculty of Extension. This option, however, has some severe limitations for many part-time students. The first is that most students do not live within easy commuting distance of a post-secondary institution. A second problem is one of scheduling. Most colleges cannot offer more than one section of any particular course and must meet the needs of their fulltime day students first. Consequently, although the college may offer a required course, it may have to schedule it during the daytime period when local government administrators are unable to attend.

A third method -- audio teleconferencing -- was being implemented on a trail basis. Although the method was evaluated very positively by the participants, it did not attract a large enough number of students. It also proved very costly, compared to the correspondence-seminar method.

## RECOMMENDATIONS

Five specific recommendations emerged from the study (Taylor, 1984). They recognized the need to use a variety of delivery modes in order to meet the diverse backgrounds and situations of the program's participants. One overriding consideration was the belief that the learners in the program are adults who should have maximum control over their learning environment and should not be controlled by a system that is overly structured.

Another consideration, one that reflected the expressed concern of many administrators, was that the system should be competency based, rather than time based. In other words, if administrators believe that they have acquired the necessary competencies in a particular subject area, then there should be a means by which they can demonstrate that competence and be awarded credit toward the certificate. They should not have to spend a predetermined, set amount of time, either attending lectures or doing assignments. Instead, they should be able to demonstrate, through an examination, that they have the competence, regardless of how the competence was acquired. These considerations, of course, have drastic policy implications for the Faculty of Extension and for participating post-secondary institutions and the professional associations.

The following summarizes Taylor's (1984) recommendations:

1. Challenge Examination

Administrators who believe they have acquired the necessary knowledge and skills to challenge an examination successfully should be allowed to do so.

2. Regular On-Campus Programs in Colleges and Universities

This constitutes a continuation of the present, conventional arrangement under which specific, authorized courses are designated as having transfer credit.

3. Extended Seminar

Week-long programs should be organized immediately prior to the scheduled examination periods. These seminars could be held on university campuses, with students encouraged to live in residence.

4. Traditional Correspondence

Students would receive printed materials and assignments on a regular basis. These could be supplemented with audio or video tapes, where practical. Completed assignments are marked and returned to the students with comments. Upon completion of the assignments, and when the student feels prepared, he or she would write the scheduled examination.

5. Correspondence With Tutors and Mentors

For students who require a greater amount of individualized and personal help with their courses, a system of tutors and mentors is proposed. Students would receive the same course materials and assignments as described above (under "Traditional Correspondence") but, in addition, would be linked into a network consisting of people with the training and expertise to assist the student.

Tutors would be subject-matter experts who may be employed fulltime in colleges and universities or in some other professional practice, in various locations throughout the province. Their role is to assist the students in their region to complete correspondence assignments and prepare them for the final examination. Tutors would mark assignments and provide oral and written feedback. They may work with individual students or with small groups of students, and must undergo formal orientation and training provided by the Local Government Studies Program.

Mentors, on the other hand, would be experienced practitioners in local government administration who have graduated from the certificate program and are available on a volunteer basis to assist students in their region. Mentors would receive regular assistance from the Local Government Studies Program in the form of workshops and written materials that could strengthen their coaching skills.

These recommendations are now being studied by members of the Local Government Studies Program community of instructors, course developers, administrators, and Advisory Committee members.

## GROWTH, DIFFERENTIATION, AND INTEGRATION

As mentioned earlier, this evaluation project took place at the time when the Local Government Studies Program was experiencing a rapid rate of expansion and growth. In order to understand the nature of the distance education options and the reasons for favouring some over others, it is useful to analyze the program in terms of the factors that have influenced the growth of the system. The Lawrence and Lorsch (1976) organization theory provides a conceptual framework that helps clarify both the nature of the evaluation model and the delivery alternatives that were evaluated.

Viewing the program as a system, its growth can be attributed to a number of factors. The most obvious one is the funding provided to the Faculty of Extension by Alberta Advanced Education. Growth, however, can also be attributed to increased differentiation (Blau, 1970) or to the emergence of some surplus productivity (Katz and Kahn, 1977). Given some resources and prospects of expanding its services to more clients, the Local Government Studies program multiplied its original function and expanded its operation, and, in the process, further differentiated its organization.

Educational institutions typically increase their teaching and administrative staffs as enrollments go up, but often only when they receive an increase in budgetary allocation from their funding sources. There is usually the expectation that with growth comes greater productivity and effectiveness. Economies of scale and specialization are expected to enhance the efficiency of the expanding system.

Organizational growth, as shown in the case of the Local Government Studies Program, is a complex process that involves, among other things, costs to the system itself. Katz and Kahn (1978) state that "The issue in any growth decision is therefore always a question of net gain, a balance of costs and benefits."

One cost is that of coordinating all the additional units or persons involved in the expanding system. A related cost is that which involves communication problems that are likely to increase as more units and persons become involved in the transactions among the various components of the system. Again, in the educational context, more communications problems are likely to emerge as policies and procedures are transmitted through several newly established, decentralized units that come in contact with an increasing number of students.

In order to ameliorate such problems, the system needs to adopt additional mechanisms for integration (Blau, 1970; Lawrence & Lorsch, 1967). Structural differentiation enlarges the administrative component; thus, the cost of differentiation is increased coordination. In this case, the proposed structural changes do not involve the greater application of high technology but, rather, the modification of roles, schedules, and policies. A number of integrative factors were recommended, including the use of common examinations, common materials, lead instructors (tutors), and training of tutors and mentors.

Another significant point to make is that environmental demands affect different parts of the system differently and, as Boulding (1953) observes, uneven growth can result from differential pressures. The demand for teleconferenced courses was lower than anticipated, and the demand for correspondence-seminar remained high. Such non-proportional changes may, in turn, require a greater need for coordination. The organization may also limit its expansion when it can no longer compensate for the non-proportional growth and its attendant internal stress. Educational programs offered by a decentralized system, such as the Local Government Studies Program, require greater effort in sustaining the interdependence of the subsystem.

As Lawrence and Lorsch (1967) point out, the more diverse the system, the more elaborate the integrative activities required, if the system is

to be made governable. Diversity of policies, schedules, standards, work flow, and budgetary processes among the subsystems affects the clients as well as the coordinating unit. Establishing a local government studies network among a number of Alberta post-secondary institutions, professional organizations, and provincial government departments requires a considerable amount of coordination and integration.

Another factor that affects organizational growth is the essential throughput of the organization's products and services. In the case of Local Government Studies, these are the courses and the accompanying course materials used by the students. The wider and more complex the range of courses and materials, the more elaborate the coordination and quality control systems required. Administrative intensity (proportion of personnel in administration) may be higher, unless these functions can be automated and computerized. However, developing and delivering specialized courses in local government administration can be capital-and labor-intensive, requiring a healthy measure of supervision and creative effort on the part of instructional designers, authors, editors, and instructors.

Finally, another factor that influences growth is the stability of the environment. The greater the predictability of the environment, the fewer crises occur and the less management needs to intervene in non-routine ways. Alberta has been undergoing a transition from a period of rapid economic growth to a period of economic decline, and this has affected the degree of uncertainty faced by educational systems, including those that serve public sector managers.

The recommendations made by the researchers (Taylor, 1984) are now being considered; some are already being implemented. A follow-on evaluation is planned to determine if, indeed, the system's performance has suffered or improved as a result of these changes that have been or will be implemented in response to changes experienced during this period of expansion.

ENDNOTES

1. There have been criticisms of the Lawrence and Lorsch (1967) study that have centered on their use of perceptual, as opposed to objective, measures of environmental uncertainty. See, for example, R. J. Aldag and R. G. Storey, "Environmental Uncertainty: Comments on Objective and Perceptual Indices," In A. G. Bederian, et al. (eds.), Proceedings of the Annual Meeting of the Academy of Management, Auburn, Alabama: Academy of Management, 1975, 203-205; H. K. Downey and J. W. Slocum, Jr., "Uncertainty: Measures, Research, and Sources of Variation," Academy of Management Journal, September, 1975, 562-578; and H. L. Tosi, R. J. Aldag, and R. G. Storey, "On the Measurement of the Environment: An Assessment of the Lawrence and Lorsch Environmental Subscale", Administrative Science Quarterly, March, 1973, 27-36.

2. Recommended references relevant to distance education include: M. Bell, "Tutor Tapes for Tutorial Support," Teaching at a Distance, 1983, 23 (Summer), 58-62; S. Brown, M. Nathenson, and G. Kirkup, "Learning from Evaluation at the Open University. II Helping Students to Learn from Audio-Visual Media", British Journal of Education Technology, 1982, 13(3), 217-236; J. S. Daniel, M. A. Stroud, and J. R. Thompson (eds.), Learning at a Distance: A World Perspective, 1982, Edmonton, Athabasca University/ International Council for Correspondence Education; Educational Research Institute of British Columbia, Learning at a Distance, 1982, Vancouver; D. T. Jamison, S. J. Klees, and S. J. Wells, The Cost of Educational Media: Guidelines for Planning and Evaluation, 1978, Beverly Hills, California: Sage Publications; C. K. Knapper, Evaluating Instructional Technology, 1980, London: Croom Helm.

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